

WE CLAIM:

1. An in-grade light fixture, comprising:

a light fixture housing arranged to be buried substantially below grade level, said light fixture housing having a light opening substantially at grade level;

a light source arranged within said light fixture housing and generating light that passes through said light opening;

10 a faceplate mechanism mounted over said light opening; and

an adjustment mechanism to allow the height and angle of said faceplate mechanism to be adjusted over said light opening to match the height and angle of the surrounding grade level and angle.

2. The light fixture of claim 1, wherein said faceplate mechanism comprises a lens, said light from said light sources passing through said lens.

3. The light fixture of claim 2, wherein said lens arranged to support the weight of foot or vehicle traffic without failing.

4. The light fixture of claim 2, wherein said lens is made of tempered borosilicate glass.

5. The light fixture of claim 1, wherein said adjustment mechanism comprises a plurality of mounting posts on said light fixture housing, said faceplate

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5 mechanism arranged on said mounting posts, the height of each of said mounting posts being adjustable to adjust the height and angle of said faceplate mechanism.

6. The light fixture of claim 5, further comprising a plurality of threaded post holes, each of said plurality of mounting posts having a threaded section to mate with a respective one of said threaded post holes, the turning of each of said mounting posts within its respective post hole adjusting the height of said post.

5 7. The light fixture of claim 5, further comprising a leveling collar resting on said mounting posts, with said faceplate mechanism resting on said leveling collar, adjusting the height of said mounting posts causing the height of said leveling collar to adjust.

5 8. The light fixture of claim 7, further comprising an optical chamber resting on said leveling collar with substantially all of said chamber within said light fixture housing, said light source arranged within said optical chamber.

9. An in-grade light fixture, comprising:
5 a light fixture housing arranged to be buried substantially below grade level, said light fixture housing having a light opening substantially at grade level;

a light source arranged within said light fixture housing and generating light that passes through said light opening;

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10 a faceplate mechanism arranged over said light opening and held in place by mounting screws, said faceplate mechanism being at least partially rotatable over said light opening such that the location of said mounting screws can be adjusted around said light opening.

10. The light fixture of claim 9, wherein said mounting screws pass through said faceplate mechanism such that the top of said screws are visible.

11. The light fixture of claim 10, wherein said faceplate mechanism comprises a lens, said light from said light sources passing through said lens.

12. The light fixture of claim 11, wherein said lens arranged to support the weight of foot or vehicle traffic without failing.

13. The light fixture of claim 11, wherein said lens is made of tempered borosilicate glass.

14. The light fixture of claim 9, wherein said light opening is circular and said faceplate mechanism is at least partially rotatable over said light opening such that the location of said mounting screws can be adjusted around the circumference of said light opening.

15. The light fixture of claim 9, wherein said light fixture housing is buried in proximity to another similar one of said light fixture housing, said mounting screws

5 being adjustable around said light opening to align with
mounting screws in said other light fixture housing.

16 17. The light fixture of claim 9, further comprising a
faceplate having a plurality of faceplate holes, a nut
ring having a plurality of nut ring holes and a leveling
collar having a plurality of collar slots, said leveling
collar arranged between said nut ring and faceplate, each
5 of said mounting screws passing through a respective one
of said faceplate holes, a respective one of said collar
slots, and threaded into a respective one of said nut
ring holes, said leveling collar in a fixed position over
said light opening, the location of said mounting screws
10 being adjusted by rotating said faceplate and said
mounting screws sliding within said collar slots.

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17 18. An in-grade light fixture, comprising:
a light fixture housing arranged to be buried within
a hole and substantially below grade level, said light
fixture housing having a light opening substantially at
5 grade level;
a holding mechanism for holding said light fixture
housing at the desired height within a hole prior to
being buried.

18 19. The light fixture of claim 18, wherein said holding
mechanism comprises an axial shelf and a plurality of
elongated stilts mounted to said axial shelf and
extending to the bottom of said hole to hold said housing
5 at said desired height.

19¹⁸ 20. The light fixture of claim ¹⁹~~19~~, wherein said axial shelf comprises a plurality of holes to accept one end of said elongated stilts.

20¹⁹ 21. The light fixture of claim ¹⁹~~20~~, wherein each of said plurality of holes is circular and each of said elongated stilts has a circular cross-section with a diameter to fit closely within a respective one of said plurality of holes.

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21¹⁹ 22. The light fixture of claim ¹⁹~~20~~, wherein each of said plurality of elongated stilts comprises a PVC pipe.

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22¹⁹ 23. The light fixture of claim ²⁰~~21~~, further comprising a plurality of hole sleeves, wherein each of said plurality of holes further includes a respective one of said hole sleeves arranged to hold a respective one of said elongated stilts within its respective one of said plurality of holes.

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23²⁴ 24. The light fixture of claim ²³~~24~~, further comprising a plurality of sleeve mounting screws, each of which is arranged to pass through a respective one of said hole sleeves and into its respective one of said elongated stilts.

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24¹⁷ 25. The light fixture of claim ¹⁸~~24~~, wherein said holding mechanism comprises a plurality of rebar clips arranged to rest on rebar to hold the light fixture housing at the desired height within a hole.

25 26. The light fixture of claim *25*, further comprising a axial shelf, said rebar clips arranged on said axial shelf.

26 27. The light fixture of claim *25*, further comprising rebar tie wires to hold said rebar clips to said rebar.

27 28. An optical chamber with an anti-condensation valve that helps eliminate condensation, comprising:

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5 a chamber for holding a light source; and
an anti-condensation valve on said chamber that allows air to escape from the optical chamber when the pressure increases inside the chamber, but does not allow air to flow into the chamber when the inside pressure drops, said chamber being otherwise airtight, said chamber forming a vacuum when the inside temperature drops, thereby reducing the formation of condensation in said chamber.

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28 29. The optical chamber of claim *28*, wherein said chamber comprises a chamber housing and a faceplate with an airtight seal between the two, the light from said optical chamber passing through said faceplate.

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29 30. The optical chamber of claim *29*, wherein said chamber housing is arranged to be housed within an in-grade light fixture housing having a light opening, said faceplate arranged over said light opening, said chamber vacuum allowing said chamber and faceplate to be removed from said light fixture housing as a unit.

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30³¹. The optical chamber of claim 28, wherein said anti-condensation valve comprises an air release button that can be pushed to allow air into said chamber to release the chamber vacuum.

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31³². The optical chamber of claim 28, wherein said anti-condensation valve comprises a longitudinal air passageway and passageway valve arranged in said passageway, said longitudinal air passageway arranged to allow air to pass out of said chamber through said passageway and passageway valve, said passageway valve arranged to prevent air from passing into said chamber.

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32³³. The optical chamber of claim 22, wherein said passageway valve comprises a duckbill valve having a slit arranged to allow air to pass out of said chamber through said slit, said slit closing to block air from passing into said chamber.

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33³⁴. The optical chamber of claim 31, wherein said anti-condensation valve comprises one or more air ports to allow air to pass into said chamber, said air ports blocked when said button is not pushed, said air ports open when said button is pushed.

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34³⁵. An in-grade light fixture, comprising:

a light fixture housing arranged to be buried substantially below grade level, said light fixture housing having a light opening substantially at grade level;

an optical chamber arranged within said light fixture housing, said chamber holding a light source generating light that passes through said light opening;

10 a faceplate mechanism mounted over said light opening and to said optical chamber and held in place by mounting screws, said faceplate mechanism being at least partially rotatable over said light opening such that the location of said mounting screws can be adjusted around said light opening;

15 an adjustment mechanism to allow the height and angle of said faceplate mechanism to be adjusted over said light opening to match the height and angle of the surrounding grade level and angle;

20 a holding mechanism for holding said light fixture housing at the desired height within a hole prior to being buried; and

25 an anti-condensation valve on said optical chamber that allows air to escape from the optical chamber when the pressure increases inside the chamber, but does not allow air to flow into the chamber when the inside pressure drops, said chamber being otherwise airtight and having an airtight connection to said faceplate mechanism, said optical chamber forming a vacuum when the inside temperature drops, thereby reducing the formation 30 of condensation in said optical chamber.